PROBLEM OF THE WEEK #5
(Fall 2022)

Let z be a complex number. Given that $z + \dfrac{1}{z} = 2\cos(5°)$, find $z^{2022} + \dfrac{1}{z^{2022}}$.

[Please fully explain your answer.]

Email solutions to `kwonmi@uwplatt.edu` by 4:00pm on Wednesday, October 19, 2022.

Every week, the best solution submitted earns a \$10 Platteville gift certificate; the top scorer each semester also wins a cash award. Good luck!
You can always see the Problem of the Week (and complete rules) online at:

`http://uwpmath.weebly.com/`